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Published every other Wednesday by Convair, a Division of General Dynamics Corporation, for the benefit of Convair people everywhere.

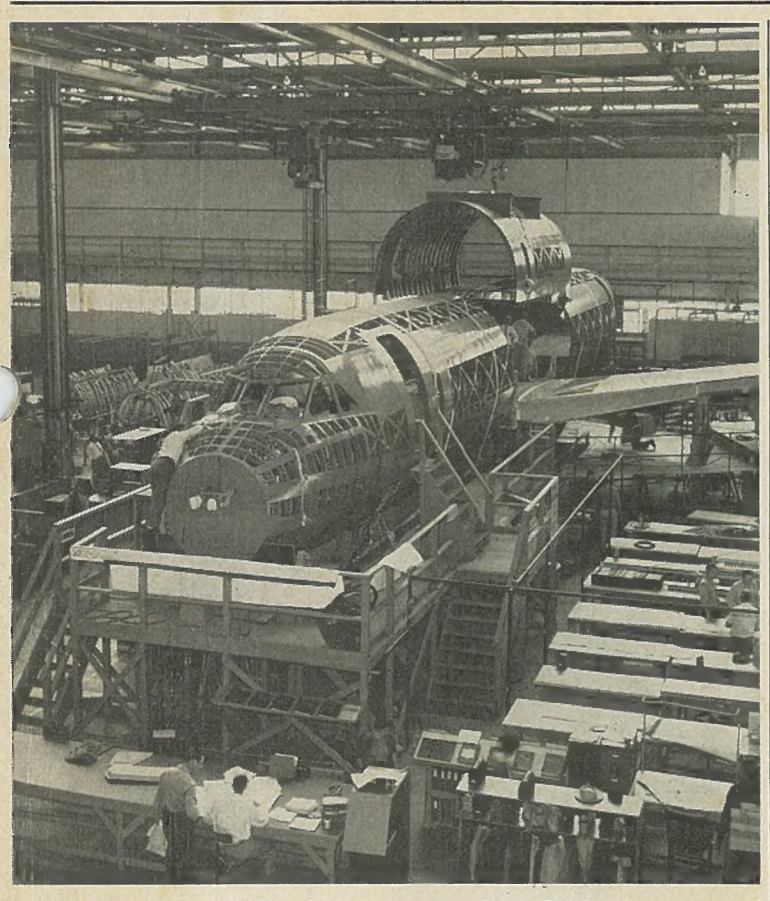
Convairiety

San Diego EDITION

San Diego news office: Building 32, ext. 1071

Vol. 11, No. 8 Wednesday, April 16, 1958

SAN DIEGO, POMONA AND ANTELOPE VALLEY, CALIFORNIA DAINGERFIELD AND FORT WORTH, TEXAS



LOWER AWAY—Overhead crane jockeys final component of Convair 880 all-metal mockup into fixtures for mating. Mockup is structurally accurate replica of 880's fuselage and one wing. It will serve in working out placement of electrical wiring, tubing, cables, etc. Skin left off fuselage area allows easy access to attachment points.

Components Joined For 880 All-Metal Mockup

The final section of an all-metal 880 jet transport mockup was lowered into place early this month ahead of schedule at Convair San Diego.

Detailed work on the mockup, a structurally accurate replica of the 880's entire fuselage and one wing, is well under way. It occupies the northeast corner of Bldg. 3, Plant 1.

When completed, the 880 mock-up will include a detailed flight deck equipped with instrument panels, controls and equipment. Miles of electrical wiring, cables, tubing and other equipment will be precision fitted to its inner surfaces.

Convair first utilized an all-metal mockup as a manufacturing and tooling aid on the Model 340. It gives engineers and factory personnel an opportunity to work out definitely exacting placement of various items in advance of production. Experience gained here helps perfect routines which result in a noticeable savings of on-station production time later.

Too, the mockup provides a training bed for production workers and will be retained throughout the program to help work out changes of design, equipment, etc.

Normally, metal mockups are completed about 100 days before major production efforts. In the case of the 880 that time will be much shorter.

While the mockup is being finished to resemble the production 880 as closely as possible, some differences will be apparent. Skins are only partial and are much less than production gauges. And to provide access for placement of wiring, etc., much of the skin is being left off.

For the most part, components

(Continued on Page 2)

McMaster Explains 'Master Test Plan'

A. C. McMaster, manager of quality control at Convair Pomona, made a special presentation on that organization's "Master Test Plan" before a select audience of Convair San Diego and Astronautics personnel today (April 16).

The meeting, held in San Diego Division's Bldg. 14, was arranged by the Reliability Policy Committee at Convair SD.

CRA Council Re-elects Berardini as President

Convair Recreation Association Employee's Council last week returned Tony Berardini, president, voted new terms for two other officers and elected a new vice president.

It marked the second occasion in CRA's 10-year history that a president has succeeded himself. Eddie Robinson served two terms in CRA's second and third years.

Re-election also came for Keith Sears, treasurer, and Grayce Fath, secretary. Jim Saftig rounds out the slate of officers as vice president, succeeding Danny Whorton.

Berardini, a native San Diegan and a 22-year Convair veteran, was a member of the original CRA Council formed in 1949. Prior to that he helped guide company recreational activities for a number of years. He was a three-year letterman at Hoover high school and his long service at San Diego has earned him the tab of "Mr. Softball." Berardini served as vice president of CRA in 1949-50.

Keith Sears heads CRA's Astronomy Club. He first worked for Convair during World War II, left the company briefly, then returned in 1951. Shortly thereafter he moved to employee services where he directs group insurance, selective service, retirement and other related programs. For years he has aided groups and departments in conducting recreational activities.

Saftig soon rounds out 15

(Continued on Page 2)

'Share in America' Drive Launched to Boost Rate Of Payroll Bond Buying

Annual campaigns to boost sales of U. S. Savings Bonds by payroll deduction will start April 28 at San Diego, Astronautics and Pomona Divisions.

All those not presently buying bonds regularly will be contacted and asked to sign up.

B. F. Coggan, SD Division manager and chairman of the city-wide "Share in America" campaign in San Diego, said:

"At least once every year Convair makes an effort to encourage greater participation in regular bond buying.

"This year our company campaigns coincide with a national effort and the result will have far-reaching effects upon our national economy.

"It is most important that we of Convair do our share, perhaps even more than our share, and set a powerful example.

"America belongs to us all and as citizens it is a privilege to be permitted to invest in the soundest of all securities, U. S. Savings Bonds."

At the start of the Convair drives, San Diego Division participation in regular bond buying by payroll deduction stood at 50 per cent, with approximately 12,350 employees investing nearly half a million dollars each month. Astronautics Division was somewhat lower, about 33 per cent participation and approximately $126,000 a month being invested.

Pomona Division, which traditionally leads all other Convair divisions in bond buying, now reports 56 per cent participation. At the end of last year's campaign the figure was 68 per cent.

All current non-buyers will be issued tab cards and will be asked to sign up for at least the minimum amount, $1.25 a week for hourly and $2.50 per pay period for salaried personnel.

Bond drive officials asked new buyers to be particularly careful in making out the simple form required for sign-up.

"The form is not complicated, but it does require you to print your name and to specify exactly the manner in which you wish the bonds made out," Frank Pickard of the SD Division drive, said.

The campaigns will last for a week.

Supplies Pour Into New Astro Plant on Mesa

A steady stream of equipment and supplies is flowing into the Astronautics Division's new plant on Kearny Mesa. The personnel move, however, has tapered off temporarily.

March saw about 2,700 persons moving to the new site, while only about 300 are moving this month.

Beginning April 25 various laboratory functions, plus related personnel, will begin to move. In contrast to early moves, made mostly at night, current shifts are daytime operations. Daylight moves will continue until the time a mass move of factory personnel is made in late May or early June.

Astro's employment office is now doing business in the west end of Astro Bldg. 1, with an entrance off the parking lots. Consequently, the identification office has been located in that area. San Diego Division identification office, however, will continue to issue "ID" cards and badges to Astro personnel located at Plant 1.

All of Astro's purchasing operations are located at the new site. A visit office has been set up on the southeast side of Astro Bldg. 2. Visitors to Astro requiring access to Plant 1 will be processed through the San Diego visit office on the first floor of Bldg. 19.

* * *

Bus passes (Astro form A 509) are required of hourly employees utilizing company buses between the new site and other locations. Personnel with these passes may hand-carry classified or unclassified documents. However, those going via company vehicles, private cars, etc., must present an employee pass.

* * *

Employee services at the new site (first floor, Astro Bldg. 1, ext. 1111) is helping coordinate vending machine service calls. Complaints may be registered by calling that office.

* * *

Astro's safety office has been relocated to the new site (first floor, Astro Bldg. 1), but a substation is located at Column 4-2, Bldg. 2, Plant 1. The telephone is ext. 1368.

* * *

A mobile canteen service is now open at the north end of Astro Bldg. 4 between 11:30 a.m. and 1 p.m. on Saturdays.

Future of SD Blood Program in Balance

Continuation of the Convair SD blood program might well hinge on the turnout of volunteer donors tomorrow (April 17) when the bloodmobile calls at Plant 2 to canvass all departments.

Convair's credit with the local blood bank is about 45 pints in the red, following a poor turnout for the last bloodmobile visit. Officials have indicated the program may be cancelled unless sufficient response is shown by donors.

F-106B Logs 40-Min. Flight

Convair's F-106B, two-place version of the USAF's fastest and highest-flying jet interceptor, flew for the first time last week from Edwards AFB.

John M. Fitzpatrick, engineering test pilot, was at the controls for the 40-minute maiden flight.

The airplane was trucked to Edwards late in February. Currently it is engaged in a rigorous test program.

Forward fuselages of the F-106B are fabricated at Convair Fort Worth and shipped to San Diego for mating with the remainder of the plane.

F-106A and F-106B carry identical missile armament and electronic gear for intercepting enemy air attack in any kind of weather, day or night.

Share in America with

U. S. SAVINGS BONDS

Sign up NOW for Payroll Savings And watch those E Bonds grow!

REGULAR WEEKLY SAVINGS

SAVE EACH WEEK	AND YOU WILL HAVE In 3 Years	In 5 Years	In 8 Yrs. and 11 Months
$ 2.50	$ 404	$ 695	$1,330
3.75	605	1,044	1,997
5.00	808	1,392	2,663
6.25	1,010	1,741	3,331
7.50	1,212	2,089	3,998
12.50	2,020	3,483	6,665
18.75	3,031	5,226	10,000

Convair SD Ships 32 Freight Cars Of Model 440 Tooling to Canadair

Convair San Diego this month passed the mid-point in its shipment of Model 440 tooling to Canadair, Ltd.

Canadair, a General Dynamics Corporation subsidiary, will build a turboprop version of the famed Convair transport for military and commercial customers.

Last week 32 railroad carloads of equipment involved in the program had cleared San Diego for Canadair's Montreal, Canada, plant slightly ahead of schedules. Over two million pounds will change hands before the transfer is complete.

This does not include many tons of engineering data, blueprints, drawings, etc., forwarded by other means to allow Canadair to get started on its initial order of 10 airplanes for the Royal Canadian Air Force.

The RAAF transport will be designated the CL-66. Canadair will call its commercial version the "Cosmopolitan."

Tooling shipped at the beginning of the program early in February has already been installed at Canadair where the actual production of parts is now under way.

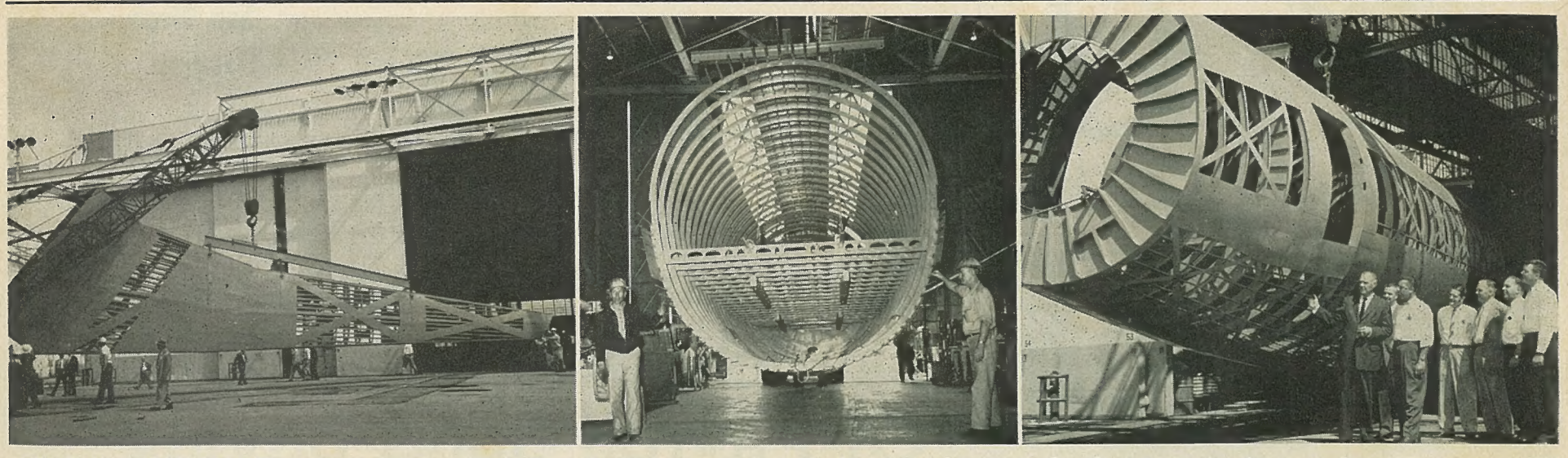
Meanwhile, Convair SD has started work on some control surfaces to be built at San Diego

(Continued on Page 2)

Daylight Saving Time Begins Soon

Convair Astronautics, San Diego and Pomona switch to daylight saving time April 27 in conformity with California law.

Clocks will be set ahead one hour at 2 a.m. April 27. Convair shifts will start one hour "earlier" beginning April 28.



MATING SEQUENCE—Three major components of all-metal 880 jet transport mock-up at San Diego move into Bldg. 3 for major mating. Note relative size of men working along each side. At left is wing section. Center shows riggers E. A. Chavez and P. P. Patton steadying forward fuselage as it moves down aisles. Rear fuselage at right pauses for short inspection by some key supervisors on 880 project. Left to right are A. W. Morgan, SD assistant manager—operations, L. R. House, J. F. Glenn, M. F. Link, C. F. Uhl, H. G. Rote and S. J. Barinka. Mockup will be used to check variety of systems.

Atlas Logistics Depot Planned

E. A. Reynolds this month became manager of Convair Astronautics' new product support department, a post he has filled in an acting capacity since January.

Other appointments in the new department, announced by J. R. Dempsey, Astro's manager, include W. L. Van Horn, manager of long range planning, and W. W. Pierce, an assistant to Reynolds who will direct planning and activation of a new logistics depot.

The new department is responsible for the support of the Atlas ICBM and other Astro products after they are delivered. It in-

W. L. Van Horn E. A. Reynolds

cludes provisioning, service and field engineering, customer training and the preparation of handbooks and technical manuals, as well as the new depot.

Reynolds is a veteran Convair man whose service dates back to 1935 when he joined Convair SD as a group engineer after seven years with Douglas. For 16 months Reynolds was a member of a Convair team training Russians in techniques for the production of PBY patrol members. He was a project engineer at Vultee Field, chief project engineer at Convair's Allentown, Pa., division and later a design engineer at San Diego. In 1951 he became a material supervisor at SD and one year later took over as administrator for the 340 project in long range planning. He moved to Astro in 1954 as head of long range planning.

Van Horn joined Convair in 1950 after two years with Douglas. He left the company briefly, then rejoined at Fort Worth and transferred to Astro in early 1956. He has been program control administrator under Reynolds.

Pierce has been associated with the aircraft industry since 1927. He came to Convair FW in 1950 and became superintendent of fuselage major assembly. He served as superintendent of development there and in early 1957 joined Astro, first in the Florida test operation, then in other capacities at San Diego.

Components Joined For 880's Mockup

(Continued from Page 1)

used on the mockup were built in regular 880 production fixtures by personnel who will perform production tasks.

Fabrication of detailed parts was accomplished under Supt. A. R. Johnson. Fuselage assembly was by men working for Supt. J. F. Glenn. Crews under Supt. F. E. Grossher built the wing. Final assembly is the task of Supt. H. G. Rote under the direct supervision of General Foreman L. R. House.

A million square feet of space at Convair SD has been allocated for tooling and factory operations on the 880 project. About 90 per cent is now ready for use.

Dozens of large sub-assemblies have been completed in various areas and go into major assembly fixtures shortly. First major wing components were to have started last week. The first fuselage will begin taking shape soon. Components will go into airplane No. 1.

Assembly work on the 880 will differ from transports previously turned out at SD. Two half-wings will be joined first. To them will be added, successively, the over-wing barrel, under-wing canoe, entire aft fuselage and finally the forward fuselage.

Freight Cars Carry Tooling to Canada

(Continued from Page 1)

and supplied by sub-contract to Canadair. In addition, engineering is redesigning some of the tail control surfaces which also will be fabricated at San Diego.

Marshaling point for tooling, etc., slated for transfer is the northwest corner of Plant 1.

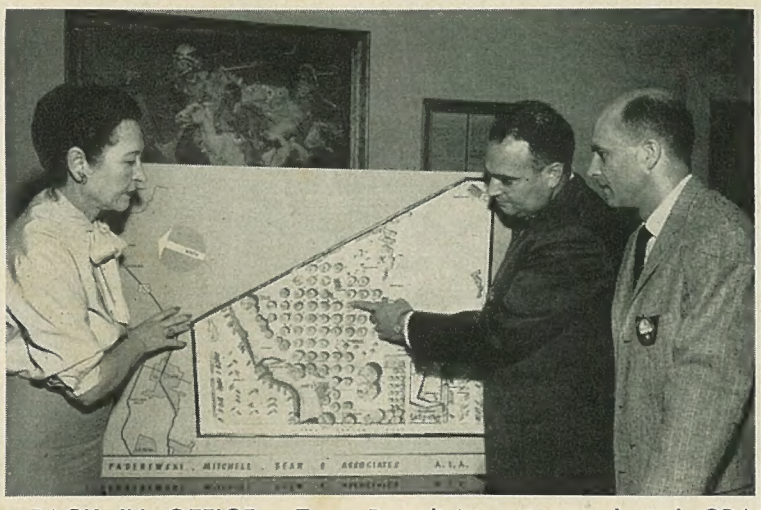
Contemplated in the near future is a large shipment of items via sea lanes through the Panama Canal and down the St. Lawrence river to Montreal. This will coincide with the break-up of ice on the last leg of the water route which normally occurs in late April or early May.

W. J. Dewey of master planning is in charge of the Convair end of the transfer program. Miller Smith is Canadair's local representative on the project.

IAS Spring Dance Reservations Due

Reservations for the spring dance of the SD section of IAS must be made before April 18 at the Institute's Harbor Drive headquarters.

The annual informal affair will be May 10 at the IAS Bldg.



BACK IN OFFICE — Tony Berardini, center, reelected CRA president, explains artist's conception of new Pecan Park picnic center for Grayce Fath, left, CRA secretary, and Keith Sears, CRA treasurer.

Breakfast Tickets On Sale Tomorrow

Tickets will go on sale tomorrow (April 17) for the annual Mother's Day Breakfast.

This year's affair will be held in the Terrace Room of Lafayette Hotel at 9 a.m. Sunday (May 4), said Martha Woodberry, CRA commissioner, and will include sons as well as daughters.

A Mother's Day message will be given by Mrs. Emmy Les Tina, San Diego "story lady" of radio and TV fame, and a program of vocal numbers by Convair SD's choral group, Choralaires.

Tickets at $1.25 each for adults, $1 for children under 12, will be available at SD employee services, Plants 1 and 2; and at Astro employee services.

Council Re-elects Berardini Prexy

(Continued from Page 1)

years with Convair. He participated in basketball, bowling and softball activities for a number of years. One of Saftig's first loves is model airplanes. He once held national and international titles in a single year in model competition. Saftig became commissioner of the Aeromodelers in 1952 and last year made two trips to the Orient to conduct model airplane events at the invitation of the Air Force. He guided the formation of the Solo Flyers and Glider Clubs for CRA. Saftig was vice president of CRA in 1956-57.

Jim Saftig

Grayce Fath is serving her 10th term as CRA secretary. She was named to that post when CRA was formed and each year is re-elected by acclamation. Mrs. Fath joined Convair in 1936 and spent much of her time in industrial relations (San Diego Division and General Offices). She became a member of the original **Convairiety** staff when it was formed in 1948 and continues in a key post in Dept. 1-32. As a co-commissioner of women's activities, Mrs. Fath has assisted in the presentation of all activities for women since they were introduced as a separate program.

Industrial Hygiene Office in Operation

An office devoted to industrial hygiene was recently added to the Convair San Diego medical department, according to F. M. Amaral, chief plant physician.

I. L. Beauchamp, ext. 591, Plant 1, staffs the office. He will assist departments and serve as a source of information on such industrial hygiene matters as ventilation, toxic and radioactive materials and chemicals.

SCHEU APPOINTED

J. P. Scheu has been named chief of support planning and control in the new Astronautics product support department. He reports to E. A. Reynolds, manager of product support.

FIRST FOR ASTRO—CRA Council for Astronautics organized last month. A. E. Munson, president, is shown signing organization papers with Dick Mitchell of employee services behind him. Seated, from left, Joe Frivaldsky, secretary; Jack Boyle, treasurer; Munson, and Art King, vice president. Others are council members.

Kitty Can Meow About Her Operation Now; Friends Finance Ten-Day Hospital Stay

"Kitty" is back on the job at Convair SD, fully recovered from a serious case of "kitten fever" that sent her to the hospital for ten days.

The tabby, who carries a "roving badge" but usually hangs out at Bldg. 8 or the fire station and points in between, developed a high fever following delivery of three still-born kittens last month.

Chris Ledbetter and Barbara Wold, both Dept. 97, took her to an animal hospital and when word got around that Kitty was ailing loyal friends started a fund, with Emily Watson as unofficial treasurer. In all, more than $40 was contributed, enough to bail out the patient after a ten-day hospital stay and also to pay for an operation that will avoid any "family complications" for tabby in future.

BACK HOME—Group insurance failed to cover recent illness of Convair SD's "Kitty," so voluntary contributions paid her 10-day hospital expenses. She is shown with a few of many benefactors. Photo was taken in payroll, Bldg. 8.

★ Convairiety ★

Founded Sept. 1, 1948. Published in four editions (Fort Worth-Daingerfield, San Diego, Pomona, and Antelope Valley-Holloman) by Convair Industrial Relations. General Offices, San Diego, Calif., Logan Jenkins, editor.

Approximate current total circulation, over 65,000. News items and letters to the editor are solicited, but no advertising can be accepted.

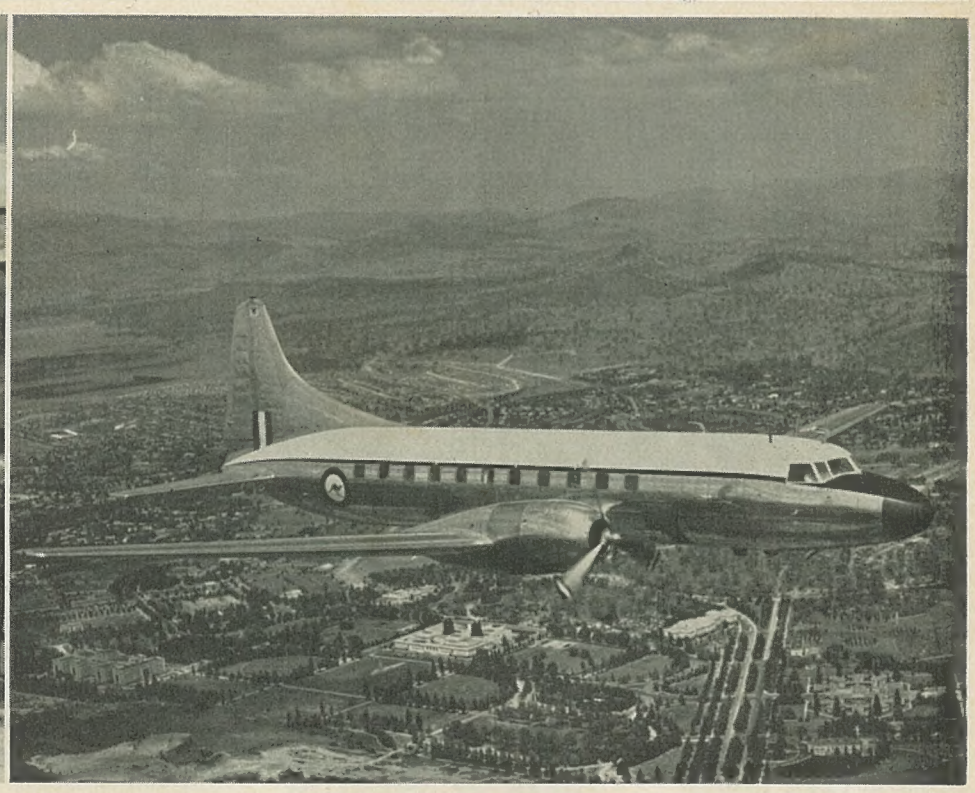
SD Editorial Offices, Building 32, Plant 1, ext. 1071. Staff: Bryan Weickersheimmer, news editor; Grayce Fath, Helen Pemberton.

Astronautics Editorial Offices (temporarily manned by employee services), ground floor, Bldg. 1 at new plant, ext. 1112.

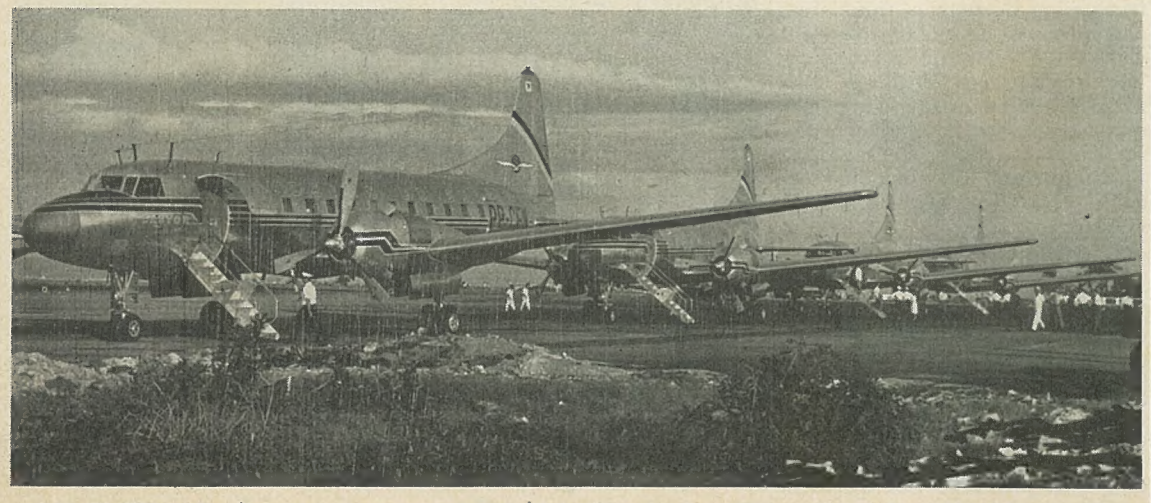
FW Editorial Offices, Col. 71-C, ext. 8245. Mailing address: Convairiety, Convair, Fort Worth, Texas. Telephone PErshing 8-7311. Staff: Bob Vollmer, news editor; Horace Craig, Bobbie Sue Marr.

Pomona Editorial Offices, Room K-222, Bldg. 2, ext. 6226, mail zone 3-8. Staff: James Combs Jr., news editor; Dorothy Keller.

Antelope Valley Editorial Offices, Room 31, Bldg. 301B, Palmdale, ext. 337. Staff: Betty Lou Nash.



440 FOR QUEEN MOTHER—When Queen Mother toured Australia recently it was in a Royal Australian Air Force Metropolitan 440. She is shown here departing from Melbourne (left) and flying over city (right). RAAF operates two 440s as VIP transports.



440 FLEET—Lined up at passenger terminal in Rio de Janeiro are these four 440 Metropolitans of Cruzeiro do Sul. Line operates a total of 18 Convair airplanes, including both 240s and 340s.

'Sandpaper' Bath in New Fort Worth Machine Does Better 'De-Burr' Job Than by Hand

Spar caps for Convair's supersonic B-58 Hustler bomber are literally "bathed in a tub of sandpaper" to clean them of burrs left after machine operations.

The parts are submerged in aluminum oxide — an abrasive substance—and vibrated at 1,425 strokes per minute. Each stroke is only three-eighths inch long. The action removes all metal burrs.

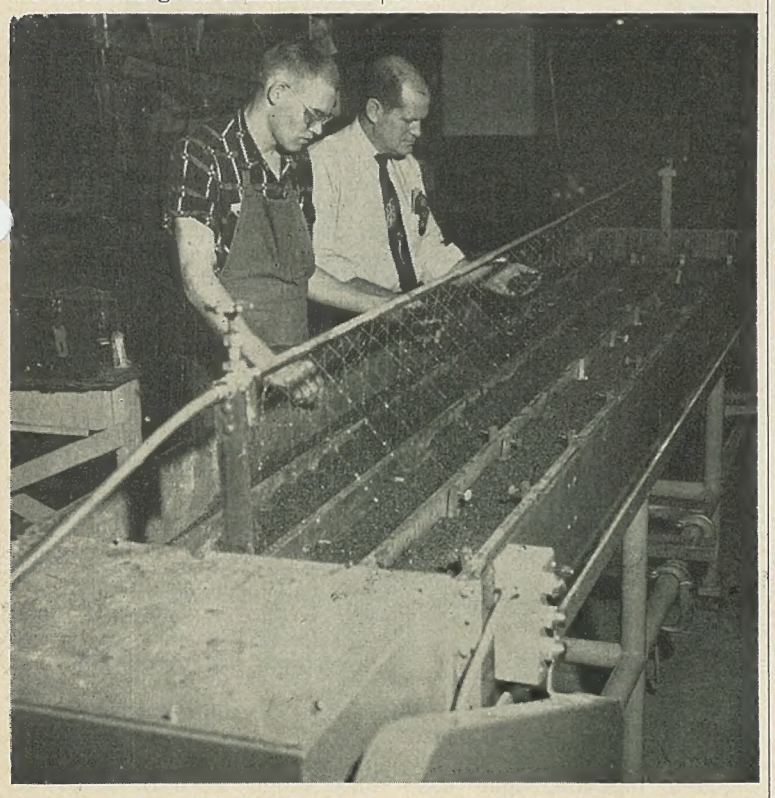
H. M. Ruby, manufacturing research engineer who helped develop the machine, estimates it saves some 800 per cent of time required by the old method—filing the burrs by hand.

"The machine does in one day what it formerly took three men three days to do," he said. "And the machines gives a much better finish."

Ruby said industry often uses aluminum oxide in a barrel to clean and deburr small parts with a tumbling action. The new machine is believed to be the first to handle parts so large.

Aluminum oxide is a gritty, abrasive material. Detergent is added to the tank each three hours and sprinklers continuously wash the oxide. Ruby said the oxide is like a grinding wheel. When dirty, it becomes smooth and has little cutting action.

C. D. Lance, Larry Baumhardt and W. H. Drebing of manufacturing research and development each helped on the new machine. The men now are at work on additional applications of the process.



SOAP AND SANDPAPER—D. R. Gauntt of Dept. 30, left, and H. M. Ruby, Convair Fort Worth manufacturing research engineer, inspect aluminum oxide in new machine which "cleans" B-58 parts. Abrasives, violently agitated by machine, remove burrs and leave parts clean and smooth.

Astro Now Running Own ES, CIP Office

Convair Astronautics this month completed arrangements for the transfer of its cost reduction activities from the administrative control of the San Diego Division program.

Since Astro was formed the programs have been separate, although administered through a single office.

M. M. Mrvichin, Astro's chief of systems and procedures, said the standard cost reduction policies used at all other Convair divisions will be followed.

At the new site the cost reduction office is located on the second floor of Astro Bldg 1. Telephone extension there is 1178. To serve employees remaining at Plant 1, analysts are working out of Bldg. 33, ext. 2979.

Travis Maloy Named Chief Test Conductor

Travis Maloy has replaced K. W. Jeremiah as chief test conductor for Convair Astronautics' operations at the Air Force Missile Test Center in Florida. Jeremiah is now Convair's base manager at Edwards Rocket Base.

Maloy, a graduate of Alabama Poly Institute, joined Vultee Aircraft in 1938 as a junior draftsman and in 1945 became a flight test engineer. He transferred to Convair SD in 1947 and in 1948 was named chief flight test engineer. He has been with Astronautics since 1957 as an assistant flight test engineer.

Interplanetary Talk Delayed to April 18

A talk by Krafft Ehricke of Astronautics on "Interplanetary Reconnaissance," originally scheduled for April 11 and cancelled when Ehricke was suddenly called out of town, has been re-set for April 18 at the San Diego State College laboratory school auditorium. The gathering is at 7 p.m. and is sponsored by the Arnold Society, honorary AFROTC organization.

Record of 13 Deliveries in a Day For Interceptors Equaled at SD

Clear skies April 8, the first in over two weeks, helped Convair San Diego equal an all-time mark for the number of interceptors delivered in a single day.

Thirteen that day (nine F-102As, two TF-102s and two F-106As) roared off Lindbergh Field for their maiden flights to Convair's production flight test center at Palmdale. Five others left the following day.

Only once before had Convair field operations crews sent so many planes away in a single day. The previous high mark was also set following an extended period of inclement weather. (Initial flights are made by the interceptors only when weather along the entire 150-mile route is clear.)

Five production flight test pilots from San Diego helped augment Palmdale's regular flight crews for the day. It was a busy day, indeed, for two, Flight Captains D. M. Dunafon and W. D. Ettridge.

Dunafon and Ettridge cleared San Diego among the first departures, hopped aboard a transport at Palmdale for the trip back, then took two more interceptors away, returning late that evening via transport.

Each logged over 600 miles of flying.

Ironically, each logged about an hour of flying time in interceptors and two hours aboard the transports. (Deliveries normally take about 30 minutes, about half of the time to arrive at the destination and the other half conducting maiden shake-down operations.)

Pilots Gather at Palmdale For Briefings on Delta Aircraft

Convair Palmdale pilots will host the annual Test Pilots' Sub-Committee meeting tomorrow and Friday (April 17-18).

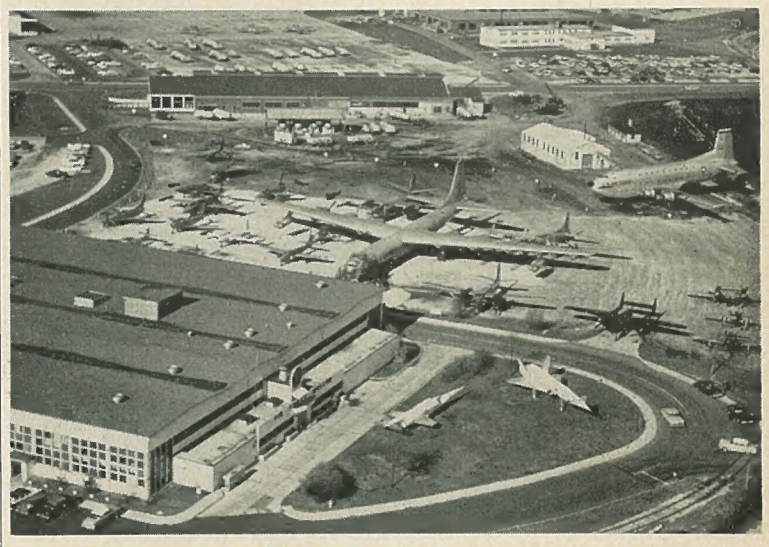
In attendance will be pilots from Fort Worth, San Diego, Edwards, Holloman and Palmdale who are members of the committee, a branch of Convair Flight Test Council. Rex Warden, Palmdale chief pilot, and R. E. Myrann, assistant chief pilot, are in charge of arrangements.

Following a welcome by facility manager W. J. Martin, the opening day agenda will include briefing on F-102/F-106 production flight operations by Warden, B-58 review by B. A. Erickson, manager of flight, Fort Worth; F-106-A/B review by R. L. Johnson, chief engineering test pilot, Edwards; and 880 review by D. P. Germeraad, chief engineering test pilot, San Diego.

After luncheon in the company cafeteria, Warden will conduct a facility tour and a guest speaker connected with North American's X-15 project will talk on "Pilot's Future in Military Aviation." Dinner at Antelope Valley Inn, Lancaster, will conclude the first day.

On Friday, "Armament Testing Problems" will be the topic of F. E. Parker, chief engineering test pilot, Holloman, and Tom Lienhard and J. J. O'Reilly of Hughes will discuss MA-1 and electronics.

The afternoon session will open with a discussion of personal equipment headed by C. W. Alston, personal equipment technician at Edwards, and conclude with a discussion of future agenda under Erickson.



"MOTHER HEN"—B-36 looms large at USAF Museum at Wright-Patterson AFB, Dayton. A. C. Snyder, field service engineer stationed there, reported visitor told him B-36 looked "like mother hen." Museum extends invitation to all Convair folk traveling in area to visit display. Hundreds each week tour museum and inspect wide range of aircraft.

SCOUTING FAMILY—Randy A. Rathmann, 14, Convair SD son, recently advanced to Scouting's highest rank (Eagle Scout), receiving award from Joseph T. McNarney, former president of Convair. From left, Fred Rathmann Jr., Randy, McNarney, brother Michael and Mrs. Rathmann.

Return Trap Shoot Against AV Slated

A return trap shoot featuring teams from Convair SD, Convair Antelope Valley and Palmdale's Fin and Feather Club is slated for 10:30 a.m. Sunday (April 20) at Gillespie Field. Convair SD is the host.

The first match, staged two months ago in Palmdale, was won by the CRA group representing Antelope Valley functions.

Two five-man teams will compete for each of the three groups. Fifty targets will be launched at 16 yards and 50 at 21 yards. Total aggregation of the 100 targets will determine winners.

Trophies are being set aside for the high gun, high team and individual awards for each member of the winning team.

The range will be opened at 9 a.m. for practice. Informal shooting will be allowed throughout the day.

HIS FATHER'S BADGE USED AS CONVAIR SON 'MAKES' EAGLE

Two Convair SD sons followed in their father's footsteps last month when Randy A. Rathmann, 14, became an Eagle Scout and his younger brother, Michael, qualified as a Tenderfoot.

They are the sons of Mr. and Mrs. Fred Rathmann Jr. Rathmann, who made Eagle Scout 26 years ago and has continued active in Scouting over the years, is a service engineering field representative in San Diego. He is explorer adviser for Boy Scout Troop 553.

Fittingly, the presentation was made by Joseph T. McNarney, former president of Convair, who is honorary chairman of the current Boy Scout fund campaign for the Mataguay Scout reservation.

The same badge which Rathmann received in 1932 was used for the ceremony honoring his son.

Log Book Entries

Births

SAN DIEGO

CAMPBELL—Daughter, Carolyn Cecilia, 8 lbs., born April 4 to Mr. and Mrs. James A. Campbell, Dept. 6.

HERBIG — Son, Steven Marshall, 8 lbs., 14 oz., born April 7 to Mr. and Mrs. J. R. Herbig, Dept. 95-0.

SCARBOROUGH—Son, David Edward, 8 lbs., 10 oz., born March 24 to Mr. and Mrs. Omar Scarborough, Dept. 197-5.

THOMPSON—Daughter, Sandra Jean, 7 lbs., 14 oz., born April 5 to Mr. and Mrs. R. E. Thompson, Dept. 129.

ASTRONAUTICS

BAKER—Daughter, Susan Eileen, 8 lbs., 14 oz., born March 6 to Mr. and Mrs. Robert E. Baker, Dept. 545-3.

BURKIN—Son, Robert Forrest, 7 lbs., 11 oz., born March 11 to Mr. and Mrs. Herbert S. Burkin, Dept. 595-2.

DADY—Daughter, Doris Annette, 7 lbs., 3 oz., born March 23 to Mr. and Mrs. L. E. Dady, Dept. 573-3.

EULETTE—Daughter, Susan Marie, 8 lbs., 10 oz., born Feb. 15 to Mr. and Mrs. Jon F. Eulette, Dept. 539-3.

HOLMES—Daughter, Michelle Victoria, 6 lbs., 12 oz., born Feb. 18 to Mr. and Mrs. Lowell M. Holmes, Dept. 220-2.

MAJOR—Daughter, Teresa Lynn, 6 lbs., 9½ oz., born March 18 to Mr. and Mrs. Fred W. Major, Dept. 541-3.

STRICKEL—Daughter, Jeanie Marie, 6 lbs., 7 oz., born Jan. 21 to Mr. and Mrs. Joseph L. Strickel, Dept. 756.

Deaths

SAN DIEGO

CARROLL—James E., Dept. 25. Died April 6. Survived by wife, Jean.

CLARK—Thelma P., Dept. 232. Died April 5. Survived by husband, Maurice M.; a daughter, Mrs. Margaret A. Stokes; two grandchildren; and two brothers.

LUNDGREN—C. A., Dept. 4-0 (Rose Canyon). Died April 5. Survived by wife.

ASTRONAUTICS

AMESSEGER—John Henry, Dept. 571-3. Died in automobile accident March 29. Survived by wife, Juanita M.; one daughter, Elinore; and a son, Robert.

Personals

SAN DIEGO

We wish to express our sincere appreciation to our Convair friends, especially those in Dept. 110, for the cards, flowers, and many other kindnesses at the death of our husband and father, Jesse Stegall, Dept. 110.

Mrs. Jesse Stegall, Donna (Dept. 6) and Helen Stegall

Is It News? Call Convairiety!

Service Emblems

SAN DIEGO

The following service emblems are due during the period April 16 through April 30:

Thirty-year: Dept. 117-0, D. E. Wilkinson.

Twenty-year: Dept. 8, E. F. Miller; Dept. 15, C. V. Spear; Dept. 25, J. V. Salter; Dept. 143, L. E. Brown; Dept. 180, O. A. Correll; Dept. 280, August Yorges; Dept. 400, J. C. Connor.

Fifteen-year: Dept. 1-64, Eleanora Yenger; Dept. 6, J. T. Ready Jr.; Dept. 14, J. E. Schultz; Dept. 15, Gertrude S. Hunter; Dept. 31, P. N. Nelson; Dept. 115, E. L. Martin.

Dept. 123, Joe Butera, G. R. M. Matlock; Dept. 144, W. F. Wittforh; Dept. 171, L. E. Reich; Dept. 230, P. E. Thomas; Dept. 288, W. C. Bowen, Fred Lay; Dept. 292, Everett Brogan.

Ten-year: Dept. 4, L. L. Cloud, O. D. Rothstein; Dept. 6, J. W. Collins, L. C. Garday, L. R. Kinzel, L. E. Peterson; Dept. 14, Mildred K. Russom, R. M. Tidball; Dept. 15, L. M. Goodloe; Dept. 25, N. L. Oftedahl, A. S. Ojeda.

Dept. 93, O. J. Snyder; Dept. 101, Luvin Gomes; Dept. 115, Ava C. Durden; Dept. 180, V. J. Lavis; Dept. 188, C. M. Wayman; Dept. 192, D. C. Constantino; Dept. 231, G. T. Loeffler; Dept. 232, Evelyn A. Harris.

Dept. 233, C. O. Barnett; Dept. 266, Mildred B. Nichols, Eva D. Ulsund; Dept. 271, H. H. Cummins, E. G. Johnson; Dept. 288, Mary I. Burgess, Thelma H. Funaro, J. G. Gray; Dept. 406, Violet T. Bunker, H. F. Olson; Dept. 600, Willard Lane; Dept. 603, T. V. Jefferson, Albert Preston.

ASTRONAUTICS

Fifteen-year: Dept. 541-7, Samuel Merkowitz.

Ten-year: Dept. 220-1, Hadley Johnson; Dept. 758-0, J. S. Good.

Promotions

SAN DIEGO

Promotions and transfers to supervision effective March 31:

Dept. 6, Engineering: To senior modification group engineer, W. T. Rieff.

Dept. 15, Customer Service: To service parts administration asst. supervisor, J. W. Blaumeyer.

Dept. 603, Tool Manufacturing: To asst. foreman, J. H. Kersey Jr.

ASTRONAUTICS

Dept. 280, Inspection: To inspection asst. supervisor, Group V, D. W. Howe.

Dept. 573, Convair Operations—Sycamore: To chief test conductor. K. E. Newton. To test conductor, H. M. Brown Jr.

Dept. 579, Field Test Administration & Support: To asst. flight test group engineer, N. Tosaya.

PATRICK AFMTC

Dept. 571, Convair Operations—AFMTC: To asst. foreman Group V, G. R. Fitzgerald, A. C. Jones, B. B. McClure, E. J. McGee. To general foreman, V. W. Higginbotham. To chief of operations support, C. R. Jackman. To group engineer, G. F. Rugge Jr.

COOKE AFB

Dept. 576-1, Convair Operations—Cooke AFB: To flight test group engineer, E. E. Barringer.

Annual Convair Rose Show Set For This Sunday

Rose time has rolled around again for Convair gardeners with the annual Convair Rose Show set for this Sunday (April 20) at the Floral Association Bldg., Balboa Park.

The several hundred prize blooms may be viewed by the general public during the afternoon, from 1 to 5:30 p.m., said E. L. Zimmerman, commissioner of the CRA Garden Club, show sponsor.

Entries may be submitted on show day at the Floral building after 8 a.m. until judging begins at 11 a.m.

Blue, red, and white ribbons, as well as individual prizes, will be awarded the top three winners in each classification. Special ribbons will go to best in each division with best of show winning a sterling silver dish.

Divisions will include classifications for single roses of all colors, three mixed, six mixed, three stem floribunda, three stem grandiflora; four arrangement classes for miniature, small, medium, and large roses and a class for dry arrangements using such materials as driftwood, manzanita, or tree roots; corsages of roses, any cut flowers, and orchids. Children's division will be divided into 5-11 yr. and 12-16 yr. age groups.

Sign-up Changed For Junior Ball

A special registration procedure for CRA's junior baseball activities has been set up after rain curtailed turnouts during normal sign-up time early this month at San Diego.

Parents are asked to drop by employee services offices at Plants 1 or 2 or the new Astronautics plant site to obtain registration cards. They are to be returned to CRA by the end of April.

CRA will sponsor a training-type league this year for youngsters 8 through 11. Games will be played on weekends. One team composed of those 12 through 14 years will compete in midget league action in San Diego.

Tennis Club Plans Meeting to Draw up Plans For Summer

All members and prospective members of the Convair SD Tennis Club are urged to turn out in full force for another special meeting called for April 22, 7:30 p.m., at the Balboa Tennis Club, Park Blvd. near Upas.

A schedule of tennis events will be set up for the coming season with all members given an opportunity to express their special interests, said Chet Dutton, CRA commissioner.

"A full and enjoyable tennis season can be planned if enough interested people attend to organize active volunteer committee groups," explained Dutton.

Two dozen tennis balls will be given as door prizes as an incentive to a good attendance at the meeting next Tuesday.

Coin Club Exhibits Planned For City

Convair SD Coin Club members will observe National Coin Week April 21-27 with exhibits placed in banks, libraries, and other public spots in the city.

As a member of the American Numismatic Association the CRA group will join the drive to create more interest in coin collecting.

A special exhibit will be located in the lobby of the administration building at Sycamore test base, said R. S. Toy, club president.

FILLETS & FUN—Convair SD Fishing Club always attracts good crowds for its annual dinner-dance each spring. March 16 event this year drew over 375 persons who ate 250 pounds of fish, then danced for hours. At top is kitchen scene where "chefs" Joe Sopko, Glen Grantham, C. T. Boyle and Howard Davidson held forth. Bottom is serving line.

Bowling Teams Poised To Start Summer Loop

Summer league bowling for most Convair SD and Astronautics leagues will get under way by the first week in May.

Now organizing are teams for San Diego leagues with meetings scheduled by CRA Co-commissioners Jim Hayman and Mike Brooks as follows:

Clairemont Bowl — Monday league, April 21, 7 p.m., league room. One team is needed to fill the league. All interested are asked to call Dick Hanson, ext. 1808, Plant 1.

Pacific Recreation — Thursday league, April 16, 7 p.m.; Wednesday league, April 23, 7 p.m.

Tower Bowl — Monday league, April 21, 7 p.m.; Friday league, April 25, 7 p.m.

Bowlero—Call Catherine Hayman, tel. HO-6-1262, for reservations.

Set up and "rarin' to go" are Monday, Tuesday, and Wednesday night Astro leagues rolling at Clairemont Bowl. Monday night eight-team league will push off the season May 5; Tuesday night league, 24 teams, May 6; Wednesday league of 12 teams, May 7. Summer play will continue into August.

Any Astro kegler wishing a spot on the summer schedule may call Willard Brassell, Astro site, CY-8-4141, ext. 1166; or Joe Frivaldsky, SD Plant 1, ext. 1202.

Sycamore summer league will start the latter part of May after winter play ends. Other Astro winter leagues will be finishing play within the next two weeks with awards dinner set for May 22 at El Morocco restaurant.

San Diego winter tourney winners will receive trophies at the May 17 ceremony at Michael's, Lemon Grove.

SD Management Club Golfers to Compete

Convair San Diego Management Club is expected to field about 70 players in the fifth annual Southern California Area Council golf tournament slated for April 26-27 at Caliente Country Club.

The National Management Association affair will attract several hundred golfers representing clubs from throughout the southland.

The Convair SD club will be shooting for the perpetual team trophy captured in the first event but relinquished over the past three years. The medal play tournament will also see trophies going to victors in each of four handicap flights.

Officer Nominations On SD Club Program

Convair SD Management Club stages a "Carnival Night" meeting tonight (April 16) at the Balboa Park Club.

Nominations of officers will be on the agenda. Entertainment will feature Hilo Hattie and her Hawaiian group.

Bow Hunters' Prize Posted

Bow and arrow hunters at Convair SD and Astronautics will have a chance at the grand prize of a custom-built bow given in the hunting contest sponsored by the CRA Archery Club.

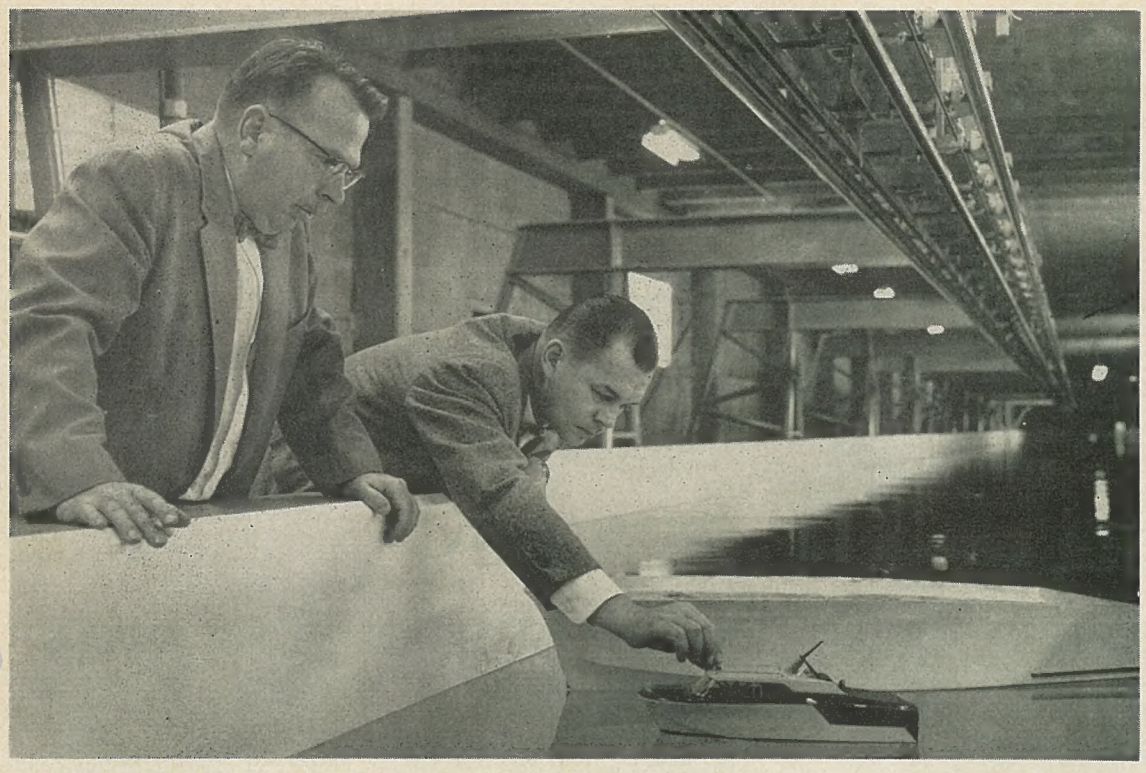
Kills registered between April 1, 1958, and March 31 of next year will be judged on the National Field Archery Association point system according to size and number. Even rabbits, if enough are bagged, have been known to win prizes, said Al Phipps, president of the Convair group.

Any Convair SD or Astro hunter, whether member of the Archery Club or not, is eligible to enter if he uses a bow and arrow.

Contest rules and requirements are available from Phipps, Plant 1, ext. 675, or CY-5-8194; John Smith, Plant 2, ext. 442; or Al Stone, Astro site, CY-8-4141, ext. 1335.

Archery club members will hold an April Fool novelty shoot Sunday (April 27) at Kearny Mesa range. Registration will be open at the range at 12:30 p.m. with shooting to start at 1:30 p.m.

Next club meeting will be tomorrow night (April 17) in the CRA Clubhouse at 7:30 p.m.



DAMP RUN—Waters of Convair SD towing basin made good spot for trying out scale model of 21-foot cabin cruiser to be built by CRA boat builders. J. H. Bacon and E. C. Thorsrud do honors. Larger hull behind model will be used for hydrodynamic testing. Boat construction starts as soon as volunteers finish new building at Gillespie Field.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation. For information call CRA headquarters, ext. 1245, Plant 1, for SD; ext. 1202, Plant 1, for Astro sports.)

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ARCHERY—April Fool novelty shoot April 27, Kearny Mesa range. Registration opens at 12:30 p.m. Meeting tomorrow (April 17) CRA Clubhouse, 7:30 p.m.

ART CLUB—Next meeting April 23, 8 p.m., Convair studio, Spanish Village, Balboa Park.

BOWLING—Summer leagues forming for SD and Astro.

GARDEN CLUB—Annual Convair Rose Show Sunday (April 20), Floral Assoc. Bldg., Balboa Park.

GOLF—Inter-division match, (SD, Astro, Pomona,) Gilman Hot Springs, April 19. Registration for Ind. Rec. Championship closes April 25. Call SD employee services, Bldg. 32, Plant 1, ext. 1245.

GUN CLUB—Tri-club Trap Shoot, SD, AV, and Fin & Feather Clubs, Sunday (April 20), Gillespie Field range, 10:30 a.m.

MOVIES—Free CRA movies each Friday, 7 p.m., CRA Clubhouse. April 18—"The Lone Hand." April 25—"Mark of the Renegade."

Reduced-price movies each Friday night at Academy Theater, 3721 University Ave. April 18—"Spirit of St. Louis," and "Reprisal."

Each Wednesday night at Abalee Theater, National City. April 16—"Bombers B-52," and "The Hard Man." Adults, 25c; children, 10c.

RADIO CLUB—Meeting tomorrow (April 17), club headquarters on Harbor Drive.

RIDING CLUB—Horse Show Sunday (April 27), Valley Lane Farms, Mission Valley, starting at 9 a.m.

ROCKHOUNDS—Field trip to Crystal Hill, Ariz., April 19-20.

ROLLER SKATING—Skate party April 30 at Skateland, Front & G Sts., 7:30 p.m. Cut-rate tickets at SD and Astro employee services.

SOFTBALL—Astro & SD plant league managers meeting tomorrow (April 17), CRA Clubhouse, 5 p.m. Astro tryouts for city league team tomorrow, Alice Birney Park, 7 p.m.

SPORTS CAR CLUB—Installation of officers, April 26, Michael's, Chula Vista.

TENNIS — Special meeting Tuesday (April 22), Balboa Tennis Club, 7:30 p.m.

WOMEN'S ACTIVITIES — Tickets on sale tomorrow at SD and Astro employee services for Mother's Day Breakfast, May 4, Lafayette Hotel. New charm school starts April 30.

WANTED! Volunteers For Construction Tasks

There's a "heap o' work" in store for CRA boat builders at San Diego, but the rewards might be worth the effort.

Present planning calls for building three types of boats on a share-the-work basis. A 16-foot model, a 21-foot cabin cruiser and a 26-foot sailboat are in prospect. Boat owners will pay for materials and assist others while waiting their turn in the production schedule.

CRA has assigned land at Gillespie Field for a 50 x 100-foot building and a smaller building and appropriated money for building materials. From there it's up to individuals.

Volunteers will erect and finish the buildings. Rain has curtailed work so far, but work will start as soon as possible. Crews begin at 8 a.m. on weekends. Needed are men who can dig foundations, do carpentry, masonry or steel erection or just serve as helpers.

Records will be kept of hours worked. Those with the most hours will be placed on boat production schedules first. Only those who can volunteer for some labor on the project will be considered for boats at this time.

Employees or members of their families interested in either of the three projects are asked to be on hand when they can at Gillespie Field.

Volleyball League In Four-Way Tie

Launch Control tossed the CRA volleyball league at San Diego into a four-way tie last week by downing previously unbeaten Dept. 8 in two straight games.

The four leaders have lost one game each. They include Dept. 8, the defending champs, Dept. 3, Flight Test and Manufacturing Control. Launch Control has won twice while dropping one game.

Tool Manufacturing has a 2-2 record, while Computer Lab, Service Parts and Astro Industrial Engineering have won one and lost three games. Astro Propulsion has won one and lost two.

League play is held each Monday night at the Federal Building, Balboa Park.

Flying Hills Ranch Offers Riding Rates

Flying Hills Ranch, a show place of the local equestrian world, is now offering special rates to Convair SD and Astronautics employees and their families through the Convair Riding Club.

Instruction (either ring or trail) is available for both adults and children with a minimum of five per class. New classes are being formed at present.

Information is available by contacting Commissioner Marc Beresford, ext. 725, Plant 2, or the Flying Hills Ranch, near Fletcher Hills.

PAINTING WINS PRIZE

Adelaide Herron, Dept. 91 SD, last month took fourth prize with her water color painting titled "The Market," at a student art exhibit sponsored by the Fine Arts Studio in Ocean Beach. She has been studying for only three months and has had no previous art training.

Golfers Practicing For Industrial Tourney

Early entries indicate Convair San Diego and Astronautics will be well represented during the annual San Diego Industrial Recreation Council match play golf tournament May 4, 10 and 11.

Approximately 100 from Convair SD and 50 from Astro are expected to file entries by the April 25 deadline. CRA is underwriting $2 of the $3.50 entry fee for each Convair participant.

Applications are available at employee services, the engineering personnel office and from Danny Ramirez (Dept. 31) on second shift for SD golfers. Astro entries may be filed with Frank Kemper, SD Bldg. 4, or Art King, second floor, Astro Bldg. 1, at the new site.

Mark Wilson to Head Tropical Fish Club

Two Dept. 600 men will head the CRA Tropical Fish Club for the next year following last week's elections. Mark Wilson is new president and Bob Selle, vice president. Serving as secretary-treasurer will be Merilyn Beyrer, daughter of Pete Beyrer (Dept. 3).

Regular club meetings are held the second Tuesday of each month at 7:30 p.m. in the CRA Clubhouse which is open every Tuesday and Thursday night, 7-9 p.m., for workshop activities.

Con-Trib-Club Drive Under Way at Patrick

Second Con-Trib-Club membership drive opened last week at Patrick AFMTC to boost participation to the 95 per cent mark for all Convair people at the Florida base.

Non-members will be contacted through their sections and members will be given progress reports on the drive. Present participation stands at 50 per cent, well below the all-over average of Astronautics Division.

CRA Sports & Recreation Convairiety

Organizational Meeting Called For SD and Astro Summer Ball

An organizational meeting for Convair San Diego and Astronautics shop league softball managers has been set for 5 p.m. tomorrow (April 17) at CRA Clubhouse.

Tony Berardini, CRA softball commissioner, said final details for the coming season will be ironed out at the meeting. Managers will decide rules, playing nights, league line-ups and other points for the season that opens May 12.

Last season 27 teams took part in shop league action. Playing diamonds will be scarce this season and the field may be cut to 24 teams.

"Naturally, those teams with representatives at the meeting will be given preference," Berardini said.

Some interest has been noted in the formation of a CRA swing shift league this season. Players or teams wishing to take part in such a league are asked to contact Gil Crosthwaite at ext. 1245. If sufficient interest is indicated, a swing shift league will be organized.

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Astro Schedules Softball Tryouts

First tryouts for an Astronautics softball team are set for tomorrow (April 17) at Alice Birney Park, Park Blvd. and Meade St., starting at 7 p.m.

Astro's team will be entered in the San Diego City Industrial League for the coming ball season.

All aspiring players are asked to report at the Thursday tryouts with equipment or call Forrest Erwin, Astro site, CY-8-4141, ext. 1185, or Joe Frivaldsky, Bldg. 32, Plant 1, exts. 1202 and 1245.

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WANT TO PLAY IN CITY LEAGUE?

All Convair San Diego softball players desiring to compete with CRA softball teams in city competition are asked to call Gil Crosthwaite at ext. 1245, Plant 1 between 1 and 4:30 p.m. daily. Players will be informed of tryout times.

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UMPIRES WANTED!

Softball officials interested in working as paid umpires for Convair shop league play this season are urged to attend a 5 p.m. meeting Friday (April 18) at CRA Clubhouse.

Ride Club Backs April 27 Show

Riders from all parts of Southern California will be on hand to participate in the Convair SD Riding Club's Western, English, and Jumper Show on April 27. Program will open at 9 a.m.

Planned as a preliminary to the Convair group's annual National Horse Show, the 20-event affair will be staged at Valley Lane Farms in Mission Valley west of the Cabrillo Freeway cloverleaf. Signs will be posted at the entrance north off Hwy. 80.

Points will be given for all entries accredited by the Trainers Association toward annual point awards.

Open to all age groups, post entry fees are $2 for children and young riders under 18, and $3 for over 18 and adults.

A committee of 15 club members is working with Bill Cheney, show manager, and F. W. Augustine, chairman, in show arrangements. Anyone able to assist is urged to contact Cheney at AC-2-5057.

With the end of the rainy season in sight, trail rides will be resumed in May, said Vince Paul, trail boss. For information Paul may be contacted at Plant 2, ext. 724.

A meeting of the club will be called in the near future, said C. L. Pogorel, CRA co-commissioner, to discuss the group's program for the coming year.

PASTO TO HOLD ONE-MAN SHOW

A one-man art show of paintings by Sam Pasto (Dept. 6), president of the Convair SD Artists Association, will be held during the next two weekends at Spanish Village. The public is invited to view the show from 1 to 5 p.m. in the art center's Convair studio.

POMONA TO HOST GOLF TEAM MEET

Gilman Hot Springs, near Hemet, will be the site of the first home-and-home team golf matches slated between Convair San Diego, Astronautics and Pomona. Play will be Saturday (April 19) with Pomona as host.

A return match has been slated for May 19 at Circle R Ranch with Astro and San Diego as hosts.

Each division will be represented by four-man teams in each of four handicap brackets. A perpetual trophy, emblematic of the tri-division championship, will go to the winning team for the ensuing year.

Roller Skate Party Slated For April 30

Monthly roller skating party for all Convair SD and Astro fans is scheduled for Wednesday (April 30) at Skateland, Front and G Sts., 7:30 p.m.

Reduced-price tickets are available at SD employee services, both plants; Astronautics employee services, Astro Bldg. 1, new site; and at Sycamore industrial relations.

Few Openings Still Remain For Forthcoming SD Charm School

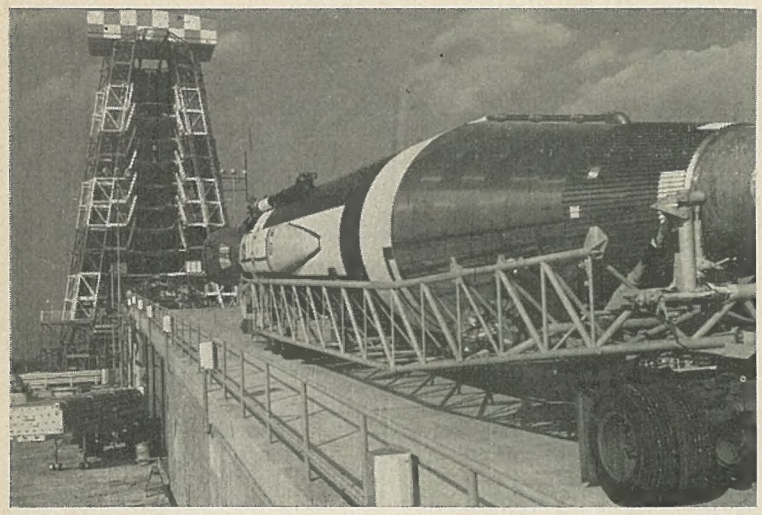
There is still room for a few more women who want to acquire a "new look" in the coming charm school scheduled to start April 30.

Registration and payment of the $7 per person fee must be made by April 18 to be sure of a place in the class, reminded Martha Woodberry, CRA commissioner of women's activities.

The CRA-sponsored self-improvement course will be conducted for six weeks by Edith Antelline, San Diego charm school director. The two-hour classes will be held each Wednesday evening in the House of Hospitality, Balboa Park, from 7 to 9 p.m.

Fundamentals of good grooming, diet and nutrition, figure analysis, posture, business and social etiquette, make-up and hair styling, and basic wardrobe instruction will be covered during the course.

All Convair SD and Astro women, including wives and daughters, are eligible to sign up. Registration may be made at SD employee services, both plants, ext. 1245, Plant 1; Astro new site, CY-8-4141, ext. 1111; Rose Canyon, ext. 83-2036.



TREK OVER—Atlas missile reaches Cape Canaveral after long trip on trailer, California to Florida. Here it is backed toward launching platform.

12-Story Service Towers 'Mother' Atlas Missiles Before Launching

Of all the missile towers that line the seaward rim of Cape Canaveral, Florida, for several miles the largest are those that serve the Atlas missile.

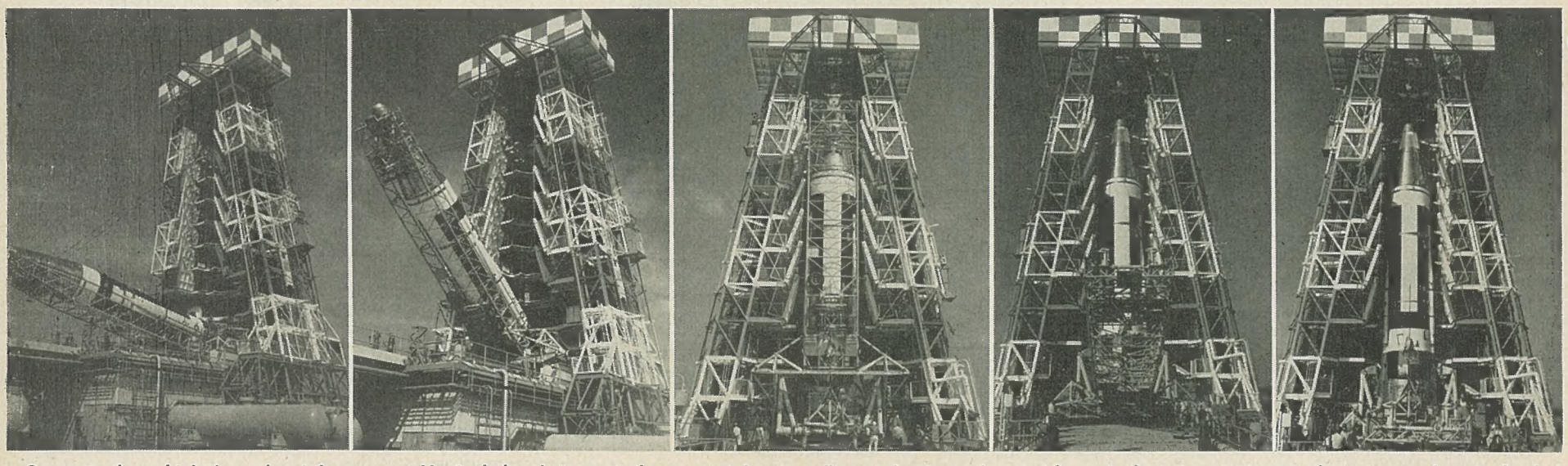
Larger than most oil derricks, they are 12-stories high and with them crews conduct much of the pre-firing checking and servicing. Each has electrical and pneumatic air systems for machine and automatic tools, a demineralized water system for washing down the missile, sliding waterproof curtains for protection from weather, a complete communications system to the blockhouse with two-way speakers at each station, two types of fire protection systems, an emergency escape cable from the upper levels and a complete lighting system for night work.

The towers were designed by Convair Astronautics Division and are essentially the same as those at Sycamore and Edwards Rocket Base, except that the Florida towers are on railroad tracks and can be rolled away (about 500 feet) prior to launchings.

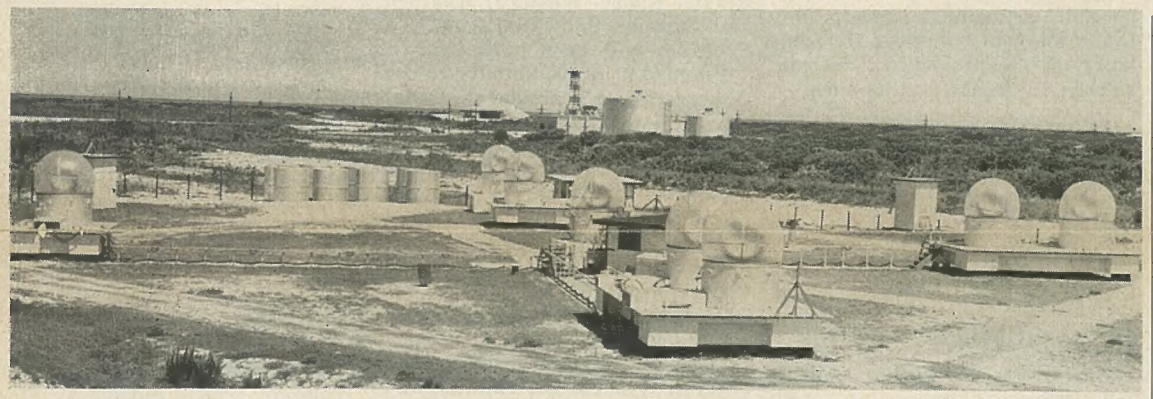
Seven retractable platforms ring the missile at appropriate intervals to permit work on any section desired. Two elevators capable of holding 16 men each take workers and equipment to various stations.

Because the firing range is within the hurricane belt, the towers have been built to withstand winds up to 120 miles an hour.

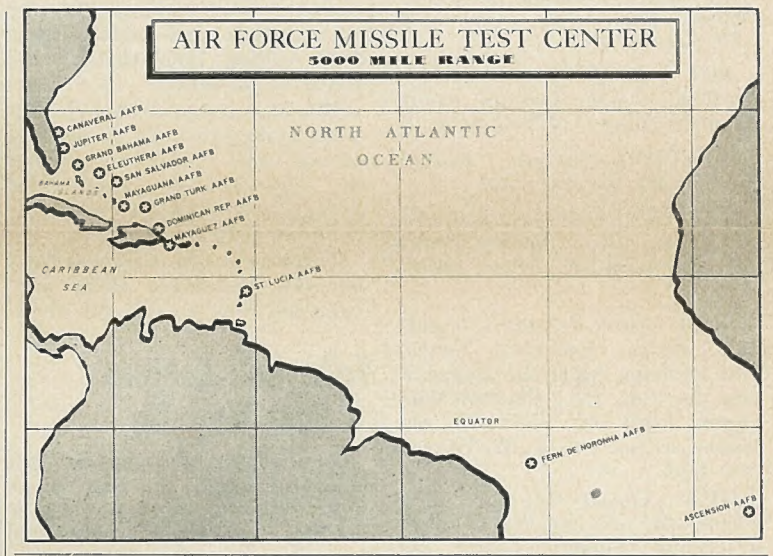
Soon after arriving from San Diego via trailer, the Atlas missile is "swallowed" by its protecting service tower. The tower itself serves as a giant crane to pull the missile, trailer and all, into a vertical position on the launching pad. The missile then is secured and the trailer lowered to the ground for the trip back to San Diego for another Atlas.



Same trailer which brought Atlas across U. S. helps bring missile to upright position in tower. Note cables attached to trailer from top of service tower, pulling Atlas into place. After missile is in position, trailer is lowered and wheeled away. Prior to firing, service tower is rolled away leaving Atlas alone on pad.



AZUSA AT PATRICK—Eight ground antennas, protected by pressurized plastic radomes, placed in form of cross, form ground portion of Azusa tracking system developed by Convair. In background is missile tower and blockhouse.



After Years of Secrecy, Lid on Azusa Removed

A Convair project that dates back more than a decade has given the power to "radio home" flight positions to all ballistic missiles, including the Convair Atlas, fired from Cape Canaveral, Fla., site of the Air Force's Missile Test Center.

Called "Azusa," it was revealed officially for the first time last month.

Azusa couples a ground transmitting station with a small receiver-transmitter (called a transponder) within the missile. Microwave signals passing between the two produce exact plots of position and velocity of the flying missile.

This information, fed into an IBM 704 computer and monitored through a plotting board, gives continuous predictions as to where the missile would land, if power were shut off.

These units (Azusa, computer and plotter) make up what is known as an "impact predictor system." It is the chief tool of the range safety officer at AFMTC who must see that fast-flying missiles do not stray from assigned flight corridors. Should they wander, they are destroyed rather than risk damage to life and property in areas adjacent to test ranges.

Azusa is a by-product of the Atlas intercontinental ballistic missile development program. As such, it dates back to 1946 and the Convair MX-774 project (**Convairiety**, Dec. 11, 1957). As far back as 1944 Convair engineers had begun to think along these lines during a "Radio Relay Robot" project.

Lack of funds plagued the Azusa program during its early stages and Convair often supplied company funds for its continued development when contracts ran out.

Electronics engineers like Jim Crooks, Bob Weaver, Sam Weiss, Al Roth, Dick Smith and others contributed much to the program, working alone or with others, as finances dictated.

Experimental equipment was fashioned in 1947 and in early 1948 testing began.

Late in 1952 the Air Force asked Convair to set up its Azusa system on a remote portion of the AFMTC in Florida. In 1953 about 35 Convair employees were assigned there. In 1954 the Azusa system had begun tracking missiles and aircraft.

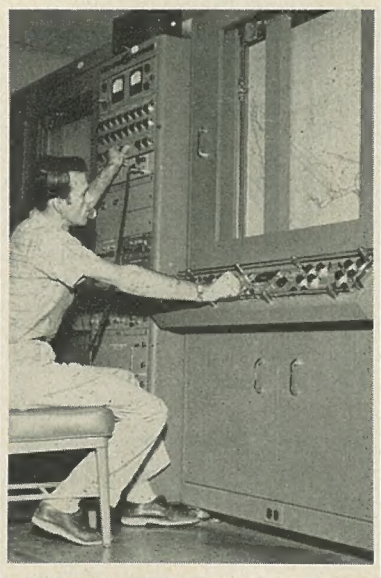
Convair men continued to operate and improve the equipment until April of last year when it was turned over to the Air Force. Only one Convair electronics engineer, William Collins, remains assigned to the Azusa ground station in Florida. He is a combination consultant, repairman and instructor.

In addition, six Convair field service engineers are on hand working under George Rugge. They repair, service and assist with transponders supplied contractors for installation in missiles. Their "customers" include missile manufacturers working for all branches of the service.

Two years ago the Air Force asked Convair to design and build a later version of the Azusa. That system, the Azusa Mark II, is now being fabricated by Convair Astronautics. It will be installed next year.

Jack Benny is responsible for the code name "Azusa" which for years hid the true identity of "Radio Course Directing System."

During an engineering conference someone, for some obscure reason, repeated the "Anaheim, Azusa, Cucamonga" rigamarole that has become a Benny classic. Another equally unidentified conferee pounced on Azusa as a good code name, and so it has been ever since.



TRACKING — Lines marking missile flight and point of impact if flight were terminated appear on Azusa plotting board. Operator works control panel, below. This is component of "impact predictor system."

Convair Goes Shopping at FW Supermarkets For 'Test Equipment' in Hustler Program

Fort Worth supermarkets don't know it, but they too are included among the "vendors" for Convair's supersonic B-58 Hustler.

An early test flight called for a "temperature reference ice vat." No such thing was handy at the moment. But a hurried trip to a nearby supermarket produced a "plain old thermos bottle that worked real fine," according to W. T. Allen, group engineer.

On another flight, engineers wanted to measure yaw with an old-fashioned yaw string attached outside the plane.

"We couldn't find any string tough enough to take the beating" said Allen. Solution . . . another trip to a supermarket. Purchase . . . a lawn-mower cord. Probably the only supersonic lawn mower cord in the world . . .

And when engineers wanted to check the B-58's deck angle in flight, they also found the answer in the market . . . a carpenter's level.

More accurate devices have been designed since, but the common items served the purpose at the time.

"It didn't work on the kids, but I started this child psychology stuff on the boss . . . you'd be surprised."